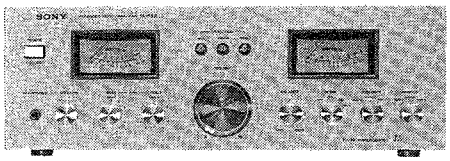
SONY®

INTEGRATED STEREO AMPLIFIER

TA-F5A



OPERATING INSTRUCTIONS page 2

Before operating the unit, please read this manual thoroughly.
This manual should be retained for future reference.

MODE D'EMPLOI page 12

Avant toute opération, lisez attentivement ce mode d'emploi.
Conservez ce manuel pour toute référence ultérieure.

BEDIENUNGSANLEITUNG Seite 22

Vor Inbetriebnahme lesen Sie bitte diese Bedienungsanleitung sorgfältig durch.
Bewahren Sie diese Anleitung zum späteren Nachschlagen gut auf.

MANUAL DE INSTRUCCIONES página 32

Antes de manipular el aparato, lea usted este manual detenidamente.
Conserve este manual para futuras referencias.

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English

Sony's new integrated stereo amplifier, the TA-F5A, provides 70 watts per channel into 8-ohm loads from 20 Hz to 20,000 Hz with 0.04% total harmonic distortion.
The front panel features include easy-to-read power meters for each channel, separate bass and treble controls with a tone-control defeat, four-position filter switch with a 6-dB-per-octave slope, quick-access pushbuttons for program source selection, tape copy selector for dubbing from one tape recorder to another, etc.—all of these with a functional panel layout.
Furthermore, unlike conventional amplifiers, the TA-F5A employs the pulse technique in its power supply section. Sony has named this innovative powering system the "Pulse Power Supply" (see Block Diagram for more detailed information).
With these features included, the TA-F5A establishes a high-order of basic performance, resulting in excellent sonic clarity with good definition.

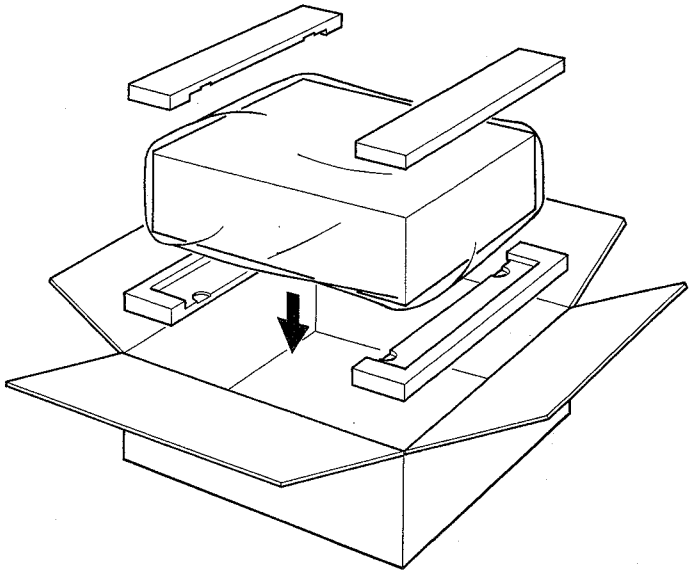
WARNING

- To prevent fire or shock hazard, do not expose the unit to rain or moisture.
- To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

UNPACKING

Do not throw away the TA-F5A carton and the associated material; they will come in handy if you ever have to transport or ship your unit. Inspect your TA-F5A immediately after unpacking.
If any sign of damage is found, consult your local Sony dealer.

When shipping the unit for repair work or to another location, the unit should be repacked in the original carton and packing material just as it was originally.



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OPERATING VOLTAGE

The TA-F5A comes in two types: Type I operates on 220 V ac (or 110 V ac by internal rewiring); Type II operates on 240 V ac (or 120 V ac by internal rewiring).
Before connecting the unit to the power source, check that the operating voltage of your unit is the same as the local power line voltage.
● When changing its operating voltage, consult your nearest Sony dealer.

For the Customers in the United Kingdom

WARNING

This apparatus must be earthed at the terminals in your 3-pin plug as follows:

Important
The wires in this mains lead are coloured in accordance with following code.

Green-and-yellow	Earth (safety earth)
Blue	Neutral
Brown	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked with the letter E or by tne safety earth symbol ⏚ or coloured green or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black. The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

PRECAUTIONS

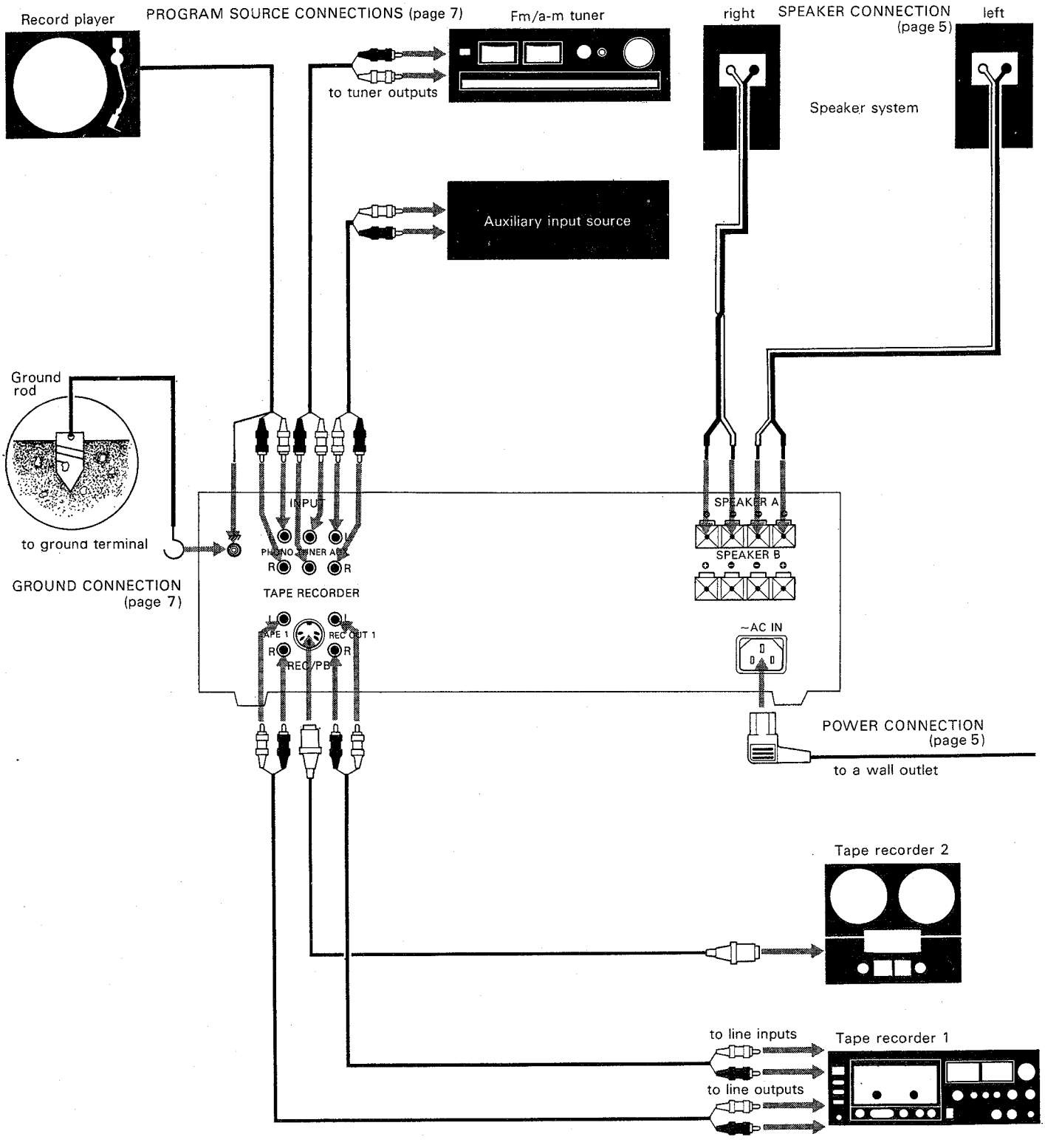
On safety
● Check that the operating voltage of your unit is identical with the voltage of your local power supply.
● Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
● Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.

On installation
● Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
● Good air circulation is essential to prevent internal heat build-up in the unit. Place the unit in the location with adequate air circulation. Do not place the unit on a soft surface such as a rug that would block the ventilation holes on the bottom.
● Do not place anything on top of the cabinet. The top ventilation holes must be unobstructed for the proper operation of the unit and to prolong the life of its components.

On operation
● Before making program source connections, be sure to turn the power switch off and unplug the unit.
● When the unit is not in use, turn the power off, to conserve energy and to extend the useful life of your unit.
● If any problem arises in the operation of this unit, such as no sound from one or both channels, etc., first follow the procedures suggested in "TROUBLE CHECKS" on page 10. Most problems that arise are result of a simple misconnection or incorrect operation and can be cleared up easily. If the difficulty still persists, contact your nearest Sony dealer.

CONNECTION DIAGRAM

For detailed information about connection, refer to the page in the parentheses.



SYSTEM CONNECTIONS

CONNECTION NOTES

● To assure correct matching at the input and output terminals of your audio system, refer to the "SPECIFICATIONS" on page 11, and to the specifications given in the instruction manuals provided with the components you wish to connect to the TA-F5A. Generally the output level of a signal source (phono cartridge, tape recorder, etc.) should be equal to or slightly greater than the sensitivity of the corresponding input. Also the output impedance of a signal source should be considerably lower than the impedance of the corresponding input.
For example, a tape recorder having an output level and impedance of 250 mV and 10 kΩ respectively can be connected to the TA-F5A TAPE inputs which are rated at 150 mV and 50 kΩ.
● For all program source input and output connections, use a low-capacitance type shielded cable. Keep the cables as short as practicable, avoiding horizontal runs. Excessively-long runs over 2 meters (6 feet) tend to reduce the high frequency response, while horizontal runs are susceptible to power line hum pick-up.
● The cable connections should be fully inserted into the jacks. A loose connection may cause hum and noise.
● If reconnections are made, be sure to lower all source level controls and turn off the TA-F5A to avoid possible speaker damage.

POWER CONNECTION

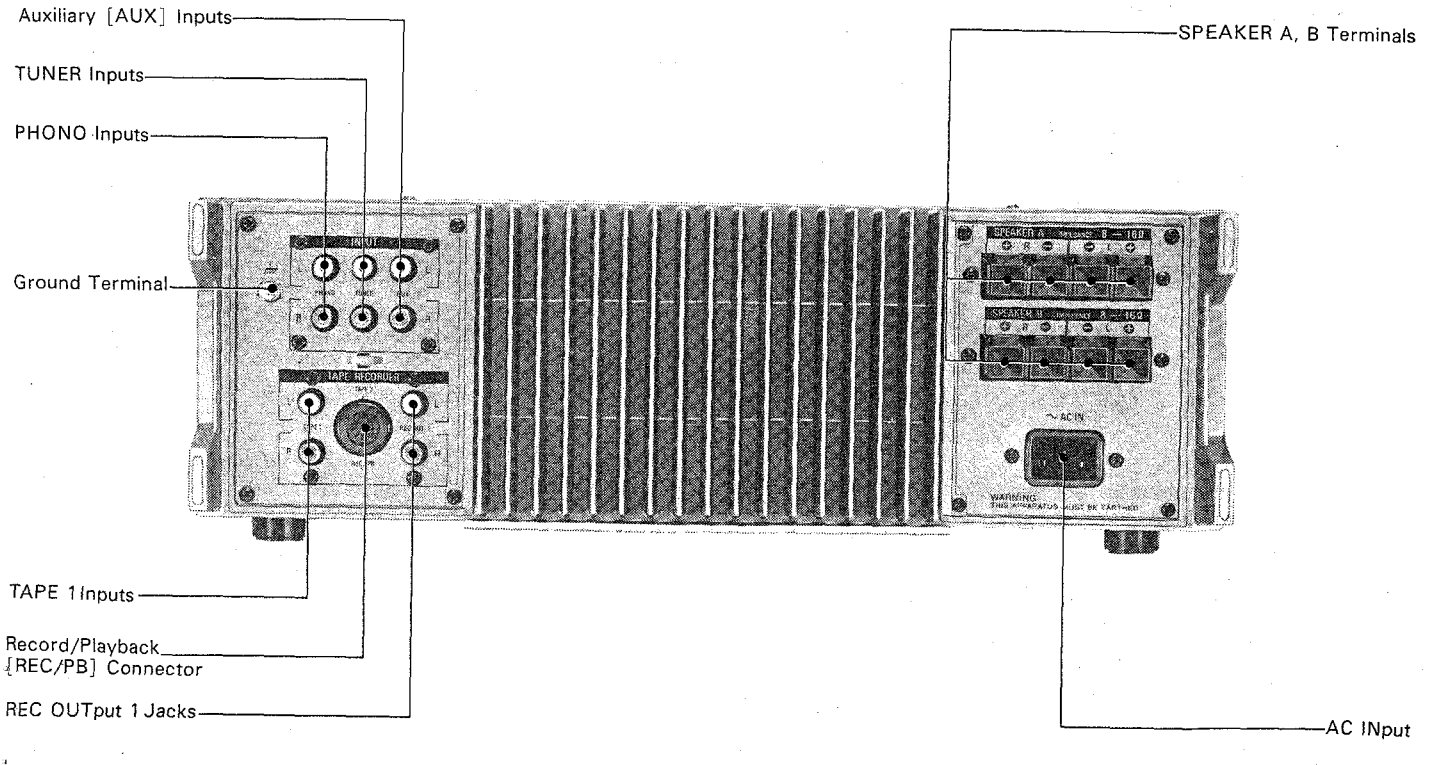
Before making any form of power connection, make sure the TA-F5A POWER switch is OFF. First plug the ac power cord into the AC INput, then into a wall output.

SPEAKER CONNECTION

The TA-F5A has provision for two pairs of speaker systems—system A and system B which can be selected individually by means of the front panel SPEAKER selector.

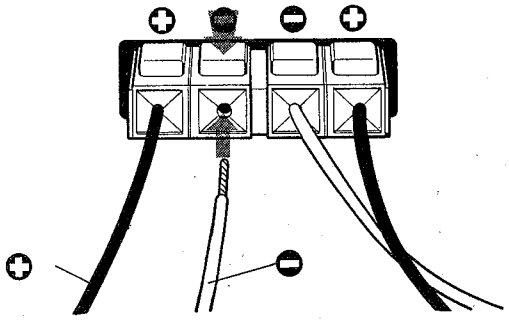
Caution
The TA-F5A is rated at 70 watts minimum RMS per channel with an 8-ohm load from 20 – 20,000 Hz and may deliver an instantaneous peak power much greater than the rated power. Be sure to use speakers with adequate power handling capabilities. Always reduce the volume, when setting down or removing a tonearm or when tuning an fm tuner across the band. Speaker damage may result if these precautions are not observed.

Speaker Impedance
This amplifier is designed to work best with speakers having nominal ratings from 8 to 16 ohms.
Care should be taken that the speaker impedance should not be less than the lowest indicated value (8 ohms) on the rear panel.



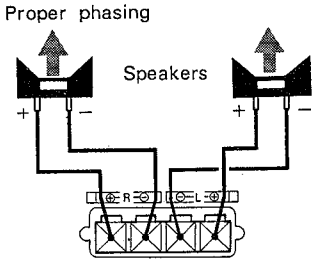
Speaker Cable Type
The type of wire used to connect the speakers to the amplifier is not critical in most home stereo systems.
Common 18-gauge lamp cord (the center conductor of 1 mm in diameter) is fine for short runs. However, 16-gauge (1.3 mm) to 14-gauge (1.6 mm) may be needed for long runs to prevent excessive power losses in the wiring.

Connecting Speaker Cord to the Amplifier
Connect each speaker to the corresponding amplifier speaker terminals i.e. right speaker to the ® speaker terminals of the amplifier and left speaker to the Ⓛ speaker terminals.
❶ Strip approx. 15 mm (5/8") of outer covering from the speaker cord.
❷ Twist the wire ends for easy insertion. Do not coat with solder.
❸ While depressing the terminal button, fully insert the twisted wires into the slot, and then release the button.
Note that the colored or marked lead of a speaker cord goes to the ⊕ terminal and the remaining one to the ⊖ terminal, to avoid making any incorrect connections.
❹ After these procedures are completed, pull the speaker cord lightly to see if the connection is secure.

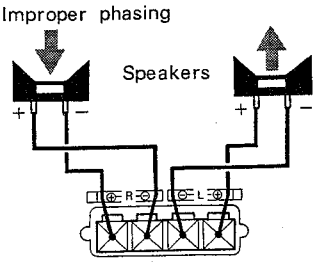


Caution
Do not connect the speaker terminals of one channel in parallel (together) with those of the other channel.

Speaker Phasing
One of the most important requirements for good stereo reproduction is correct speaker phasing (all speaker cones move in the same direction which similarly energized). For correct speaker phasing, all speakers must be connected correctly i.e. all ⊕ terminals of the speakers should be connected to ⊕ terminals of the amplifier, and ⊖ to ⊖. If one connection is reversed, all others must also be changed. Otherwise the speaker phasing becomes reversed so that the bass tones seem to be missing and the position of the instruments becomes obscure.



Both speaker cones move in the same direction.



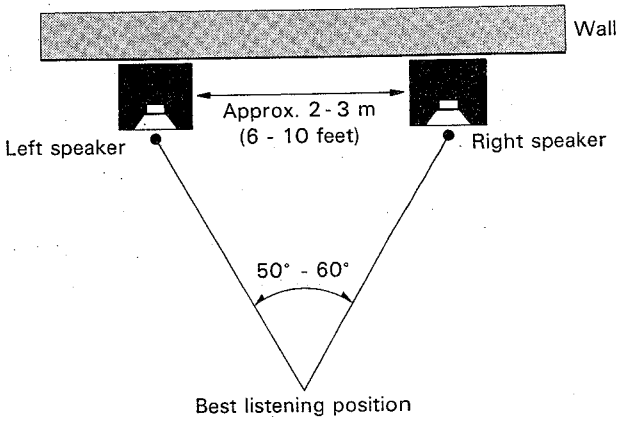
The ⊕⊖ connections of right speaker are reversed, so two cones move in the opposite direction.

Speaker Placement
Here are a few suggestions for speaker placement that will assist you in obtaining an installation with satisfactory stereo sound.

Normally, the speakers are placed on the floor against the narrower wall of a room. The bass sounds can then be increased by moving the speakers toward the corners, or decreased by raising the speakers off the floor on suitable pedestals, and/or moving them away from the wall a moderate distance. If the speakers are positioned above the floor, do not place them higher than ear-level while seated, since this produces an unnatural effect.

However, moving the speakers toward the corners in a large room, while increasing the bass, results in a "hole in the middle" effect which can be partially counteracted by angling the front of the speakers toward the center of the room.

The speakers should be nearly equidistant from the center of the selected wall, and spaced 2 – 3 meters (6 – 10 feet) apart as illustrated.



Place the right and left speakers in similar acoustic environments, otherwise you will obtain unbalanced sound. For example, placing one speaker near an open door or archway will decrease the apparent bass from that speaker.

Best sound is usually obtained in a room with carpeting on the floor, and having heavy draperies and upholstered furniture. Since each room has its own individual acoustic characteristics, which are a function of its size, construction and furnishings, some experimentation with speaker placement is generally necessary before the correct balance of stereo image and bass

response is obtained. This will be time well spent, resulting in your enjoyment of the maximum capabilities of your music system.

PROGRAM SOURCE CONNECTIONS

Record Player
The PHONO inputs accept a record player with a low-to-medium cartridge output. (Their input sensitivity is 2.5 mV and the input impedance is a standard load of 50 kΩ.)

Tuner
The TUNER inputs accept tuner outputs.
(An additional tuner can be connected to the AUX inputs, because the TUNER and AUX inputs are identical in sensitivity and input impedance.)

Other Input Sources
The AUX inputs are provided for connecting various input sources such as an additional tuner, record player equipped with a ceramic cartridge, tape recorder, etc.

Tape Recorders
This amplifier permits the connection of up to two tape recorders: one using two stereo-pairs of phono (RCA) jacks (indicated as TAPE 1 and REC OUT 1); the other using a single DIN connector (indicated as REC/PB).

GROUND CONNECTION

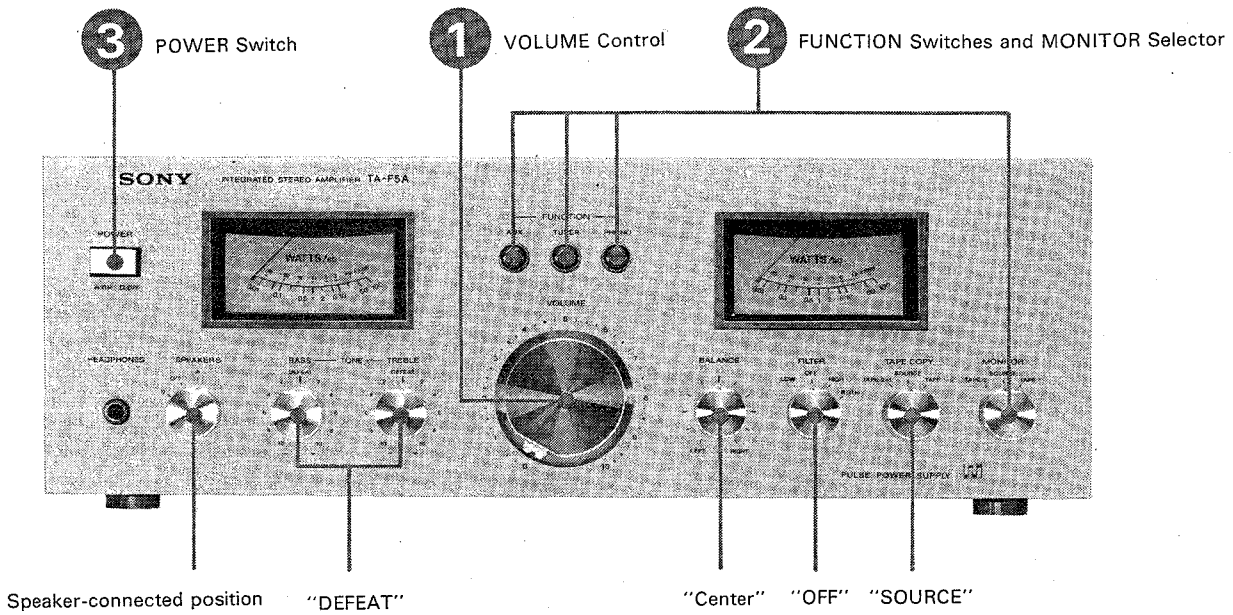
To prevent hum, be sure to connect the ground wire of the record player to the amplifier ground terminal. If hum still exists, it may be helpful to connect the ground terminal directly to earth via a ground rod.

INITIAL OPERATION

As a preliminary to initial operation, check that the POWER switch is released (OFF) and plug the TA-F5A into a suitable power outlet.
Before proceeding to any type of operation, set the controls and switches as shown :
❶ Set the VOLUME control at minimum position (fully counter-clockwise).
❷ Select the desired program source.

Program	MONITOR	FUNCTION
Fm/a-m tuner	SOURCE	TUNER
Record playing		PHONO
Auxiliary sources		AUX
Taped program	TAPE 1 or 2	Any

❸ Depress the POWER switch to ON.
(The TA-F5A employs a muting circuit which provides a few seconds delay after switch-on to avoid any annoying "thump" noises when the unit is first turned on.)



SOUND ADJUSTMENTS

Your TA-F5A is now ready for operation.

Sound Volume
Adjust the VOLUME control to the desired sound level.

Stereo Balance
Stereo balance may be influenced by the acoustics of your listening room (including furnishings), speaker placement, etc. Adjust the BALANCE control for equal output from the right and left speakers to produce a well-defined stereo image.

Tone
The manipulation of the tone control section does not interrupt the signal path in the amplifier. However, its overuse may adversely affect amplifier tone quality.

TAPE RECORDING

❶ Set the MONITOR selector to SOURCE.
❷ Select the recording program with the FUNCTION switches.
❸ Set the TAPE COPY selector to SOURCE.
❹ Adjust the recording level at the recorder and start it in record mode.
● The VOLUME, BALANCE, TONE controls, and FILTER switch have no effect upon the recording.

Monitoring of a 3-head Tape Recorder
If your tape recorder has separate record and playback heads, you can monitor the recording results by setting the MONITOR selector to TAPE position.
In this case, the recorder should be connected to the TAPE and REC OUT jacks and its tape monitor should be at the TAPE position.

FRONT PANEL FACILITIES

This section describes the operation and function of each facility on the front panel of the TA-F5A.

❶ Power Meters
These meters, calibrated in rms watts with 0 dB equal to 10 watts, indicate the power output of the amplifier over the range of 0 to 100 watts (into an 8 ohm load) with accurate reading of the program peaks.
When connecting speakers with other than 8-ohm-impedance loads, meter readings do not indicate the actual power output. For a 16 ohm speaker, multiply the meter reading by 1/2.

❷ POWER Switch
Turns the operating power on or off. The power meters will light when the amplifier is turned on.

❸ HEADPHONES Jack
This jack accepts any low or high impedance stereo headphones. For headphone monitoring only, set the SPEAKER selector to OFF position.

❹ SPEAKER Selector
Selects speaker system A or B.
A : To drive speaker system A.
OFF : To cut off the speaker sound or to monitor through the headphones.
B : To drive speaker system B.

❺ TONE Controls
TONE controls are useful for compensating any deficiency in your speaker system or listening room acoustics, correcting improperly equalized program source material, and so forth. These two controls each cause a response change of ±10 dB. When both are in their "DEFEAT" position, a flat response results (provided FILTER switch is OFF).
BASS : Clockwise rotation boosts and counterclockwise rotation reduces bass frequencies above and below a turnover point (300 Hz) respectively.
TREBLE : Clockwise rotation boosts and counterclockwise rotation reduces treble frequencies above and below a turnover point (5 kHz) respectively.

❻ VOLUME Control
Regulates the overall sound level.
Clockwise rotation of the VOLUME control increases the sound level and counterclockwise rotation decreases the volume.
● Lower the volume whenever you turn the amplifier on or off, or make system connections.

❼ BALANCE Control
Governs the amount of sound coming from each paired speaker to get optimum stereo effect.
When you turn the BALANCE control to the right, the left channel volume is decreased, and vice versa.
For normal operation, set the BALANCE control to the center-detented position.

❽ FILTER Switch

The purpose of a filter is to attenuate selected portions of the audio frequency spectrum. A four-position filter switch is provided on this amplifier: LOW, OFF, HIGH and BOTH.

LOW and HIGH filters have an attenuation slope of 6 dB per octave for eliminating unwanted noise components present in the program source.

If there is no need for the use of a filter, set the FILTER switch to OFF.

LOW: Low frequency noise, such as the rumble created by a turntable, record changers or warped records is reduced.

HIGH: High frequency noise such as the surface noise of records or tapes when reproducing old and poor quality recordings, or high frequency distortion in records or tapes is reduced.

BOTH: LOW and HIGH filters take effect simultaneously.

❾ TAPE COPY Selector

By positioning this selector to TAPE 2→1 or TAPE 1→2, you can dub from one tape recorder to another, while still listening to the program source you selected with the FUNCTION switches.

TAPE 2→1: For dubbing from tape recorder 2 (for playback) to tape recorder 1 (for recording).

SOURCE: For normal use.

TAPE 1→2: For dubbing from tape recorder 1 (for playback) to tape recorder 2 (for recording).

For normal operation, keep this selector at SOURCE position.

❿ MONITOR Selector

Selects either the playback output from tape recorder 1 or tape recorder 2, or program sources other than the taped programs.

TAPE 2: For playback of tape recorder 2.

SOURCE: For such program sources as a record player, tuner, or auxiliary source.

TAPE 1: For playback of tape recorder 1.

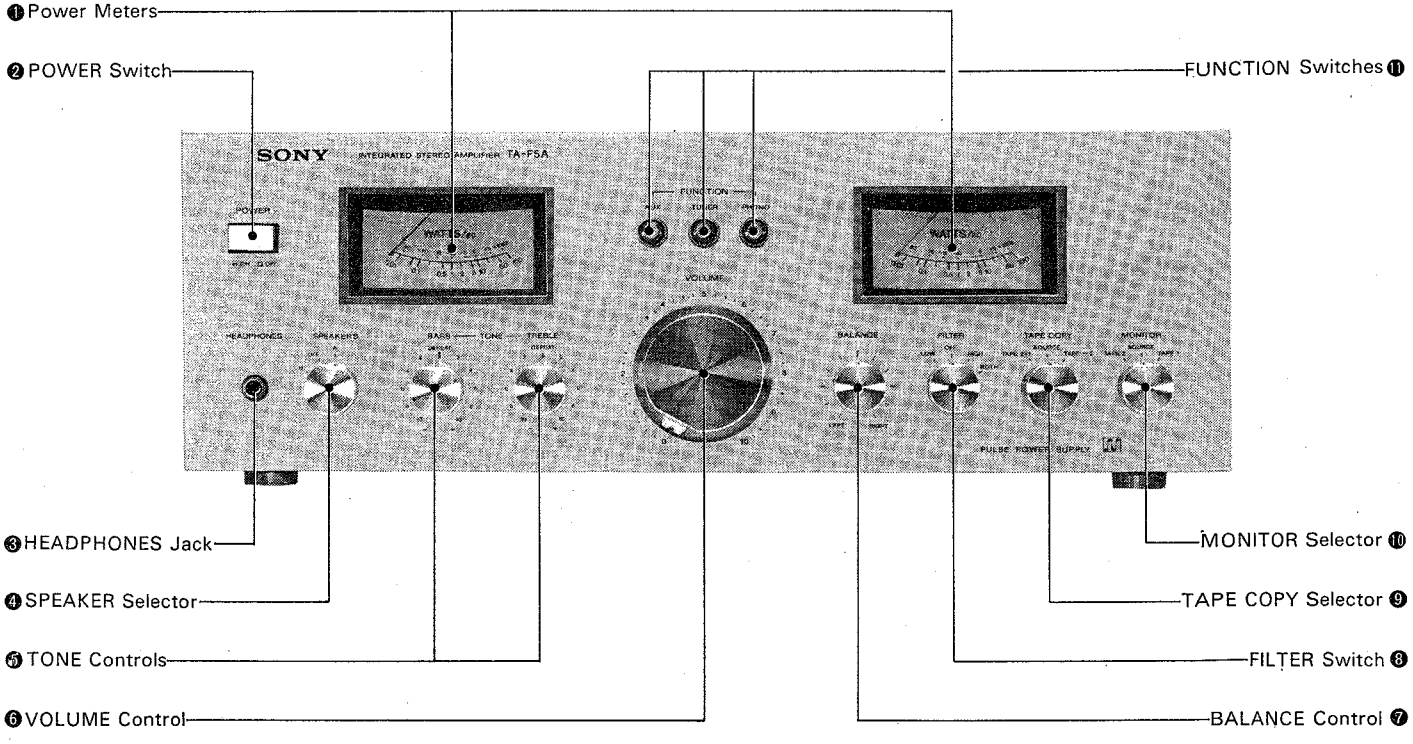
⓫ FUNCTION Switches

These switches are operative when the MONITOR selector is set at SOURCE position. Depress one of these switches in a row for the desired program source selection.

PHONO: For disc programs (connected to PHONO inputs)

TUNER: For off-the-air programs (connected to TUNER inputs)

AUX: For auxiliary programs (connected to AUX inputs)



CARE OF YOUR TA-F5A

TROUBLE CHECKS

The following chart will help correct most troubles which may occur with the unit. If the trouble persists after you have made these checks, consult your Sony dealer.
Before going through the check list of specified troubles below, first refer back to the "CONNECTION DIAGRAM" on page 4 and "INITIAL OPERATION" on page 7.

No audio and the power meters not lit
- Check that the ac power cord is plugged into a working outlet.

No audio but the power meters light
- Check speaker cord connections.
- Set the MONITOR selector to SOURCE for program sources other than TAPE inpus.
- Check the settings of FUNCTION switches.
- Check the SPEAKER selector setting.
- Turn up the volume.

Unbalanced left and right volume
- Adjust the BALANCE control.
- Check the level or balance controls of the signal source.

Abrupt loss of sound from one or both of the speakers*
- Check the speaker terminals or speaker cord for a short.
- Check for a connected audio component which might generate a dc content that affects the TA-F5A.

No tape recording
- Check that the TAPE COPY selector is set at SOURCE.

No tape copying
- Check the TAPE COPY selector to see if it is correctly set.

Reversed left and right sound
- Check the speaker cord connection and speaker location.

Lack of bass sound or obscure instrument position
- Check the speaker connection for proper phasing.

Severe hum or noise
- Use shielded connecting cord.
- Keep the connecting cord away from transformers or motors and at least 3 meters from TV sets and fluorescent lights.
- Ground the amplifier.

Rustling noise
- Make secure connections.
- Wipe the plugs and jacks with a cloth lightly dampened with methanol.

CLEANING

Clean the cabinet, panel and knobs periodically with a soft cloth. If finger prints, food and beverage stains, etc. are difficult to remove, use a cloth moistened with a mild detergent solution. Do not use any type of scouring powder, abrasive pad or solvent, since these will damage the cabinet.

* These symptoms may be caused when the protection circuits activate.

SPECIFICATIONS

Amplifier section

Continuous RMS power output
(Less than 0.04% THD, both channels driven simultaneously)
At 1 kHz
70+70 watts (8 ohms)
At 20 Hz - 20 kHz
70+70 watts (8 ohms)
According to DIN 45500
75+75 watts (8 ohms)

Power bandwidth (IHF) 5 Hz - 35 kHz
Harmonic distortion Less than 0.04% at rated output
Less than 0.02% at 10 W output
Intermodulation (IM) distortion
(60 Hz : 7 kHz=4 : 1) Less than 0.01% at rated output
Less than 0.008% at 10 W output
Frequency response PHONO RIAA equalization curve ±0.2 dB
TUNER, AUX, TAPE 1, TAPE 2 (REC/PB) 3 Hz - 70 kHz $^{+0}_{-1}$ dB
Residual noise Less than 50 μV (8 ohms, Network A)
Damping factor 40 (8 ohms, 1 kHz)

Inputs

	Sensitivity	Impedance	Maximum input capability (0.1% distortion)	S/N (weighting network, input level)
PHONO	2.5 mV	50 k ohms	250 mV	85 dB (A, 2.5 mV)
TUNER AUX TAPE 1 TAPE 2 (REC/PB)	150 mV	50 k ohms	—	100 dB (A, 150 mV)

Outputs

	Voltage	Impedance
REC OUT 1	150 mV	4.7 k ohms
REC/PB	22 mV	82 k ohms
HEADPHONES	Accepts low and high impedance headphones	
SPEAKER	Accepts speakers of 8 - 16 ohms	

Tone controls
BASS
±10 dB at 60 Hz
(turnover frequency 300 Hz)
TREBLE
±10 dB at 25 kHz
(turnover frequency 5 kHz)

Filters
LOW
6 dB/oct below 15 Hz
HIGH
6 dB/oct above 9 kHz

General

System Amplifier section : Pure-complementary symmetry SEPP OCL circuitry
Power supply section : Pulse-power supply circuitry
Semiconductors 2 FETs, 4 ICs
42 transistors, 36 diodes
Power requirements Type I : 220 V ac (or 110 V ac by internal rewiring), 50/60 Hz
Type II : 240 V ac (or 120 V ac by internal rewiring), 50/60 Hz
Power consumption 270 watts
Dimensions Approx. 410×145×370 mm (w/h/d)
(16 3/16×5 3/4×14 5/8 inches)
Including projecting parts and controls
Weight Approx. 7.2 kg (15 lb 14 oz), net
Approx. 9 kg (19 lb 14 oz), in shipping carton
Supplied accessories Ac power cord

While the information given is true at the time of printing, small production changes in the course of our company's policy of improvement through research and design might not necessarily be indicated in the specifications.
We would ask you to check appointed Sony dealer if clarification on any point is required.

Français

Le nouvel Amplificateur Stéréo Intégré Sony TA-F5A fournit 70 watts par canal pour des charges de 8 ohms, à partir de 20 Hz jusqu'à 20 000 Hz avec une distorsion harmonique totale de 0,04%.
Le panneau avant comprend des indicateurs de puissance à lecture rapide pour chaque canal, des commandes séparées pour les tonalités basses et aiguës avec contrôle de tonalité, un sélecteur de filtre à quatre positions avec une courbe de 6 dB par octave, des boutons-poussoirs extrêmement pratiques pour la sélection des sources de programme, un sélecteur de copie de bande pour doubler une bande d'un magnétophone sur un autre et vice versa, tout ceci dans une disposition fonctionnelle sur le panneau avant.
De plus, contrairement aux amplificateurs conventionnels, le TA-F5A utilise les techniques d'impulsion dans sa section fournisseur d'alimentation. Sony a nommé ce système d'alimentation "Alimentation par impulsion" (voir "SCHEMA DE PRINCIPE" pour plus de détails).
Doté de toutes ces caractéristiques, le TA-F5A possède des performances de tout premier ordre, résultant en une reproduction sonore de haute définition et extrêmement claire.

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AVERTISSEMENT

● Afin d'éviter tout danger d'incendie ou d'électrocution, éviter d'exposer l'appareil à la pluie ou à l'humidité.
● Afin d'écarter tout danger d'électrocution, garder le coffret fermé. Ne confier l'entretien de l'appareil qu'à un personnel qualifié.

DEBALLAGE

Ne pas se débarrasser du carton d'emballage, ni du matériel qu'il contient. Ils seront très utiles lors de l'expédition ou du transport de l'appareil. Inspecter l'appareil aussitôt après le déballage. Si la moindre anomalie est décelée, consulter le concessionnaire Sony le plus proche.

Pour déménager ou réexpédier l'appareil en vue d'une réparation, utiliser le carton d'emballage original et replacer le matériel de la même façon qu'il se trouvait à la livraison, ceci pour lui assurer la meilleure protection possible.